IN THE SPECIFICATION (as originally filed):

On page 1, after the title please insert the following:

This is the U.S. national phase of International Application No. PCT/EP03/10097 filed September 11, 2003, the entire disclosure of which is incorporated herein by reference.

BACKGROUND OF THE DISCLOSURE

The heading on page 1, line 3 has been changed as follows:

~~Description:~~ Field of the Disclosure

The paragraph beginning on page 1, line 5 has been changed as follows:

The ~~invention~~ disclosure relates to a fireproof glazing unit ~~consisting of~~ including at least two transparent substrates ~~arranged at a certain distance~~ spaced from each other, ~~whereby there is~~ with at least one transparent fireproof layer between the substrates.

On page 1, line 8 please add a heading as follows:

Related Technology

The paragraphs beginning on page 1, line 9 have been changed as follows:

In order to configure transparent glazing units as fireproof glazing, it is a known ~~procedure~~ to employ laminated glass that has at least one transparent fireproof layer. The effect of such a fireproof layer can be, for instance, that in case of fire, it expands to create a hardening foam that consequently forms a shield against the heat generated by the fire. However, most of the familiar fireproof systems have the drawback that the fireproof layers used are not UV-stable. As a consequence, exposure to sunlight over a prolonged period of time causes the fireproof layer to become cloudy, a phenomenon that greatly impairs the

appearance of the glazing. This is particularly disadvantageous when fireproof glazing is used in residential, office or other public areas, where the visual appearance of glass panes is of great importance.

In order to reduce the UV sensitivity of fireproof layers, it is a known procedure to employ various additives in the production of the layers. For instance, ~~German Preliminary Published Application~~ DE 44 35 841 proposes the use of potash water glass as an additive for the fireproof layer between two glass panes. Here, the amount of the additive consisting of potash water glass is selected in such a way that, as a function of the prevailing conditions, a detrimental sensitivity to ultraviolet light no longer exists. The main components of the described fireproof layer are soda water glass and water, whereas organic additives in the form of polyvalent alcohols and/or sugars constitute minute residues.

The paragraphs beginning on page 2, line 4 have been changed as follows:

~~International patent application~~ WO 99/35102 and ~~the~~ corresponding ~~Japanese patent application~~ JP 111 99 278 disclose a UV-absorbing fireproof glazing in which, in front of a fireproof layer that foams in case of fire, there is a UV-absorbing layer containing the amide compounds of an aminosilane compound that reacts with a UV-absorbing compound. Even though this method is suitable for different fireproof layers, it is very demanding.

GENERAL DESCRIPTION

Therefore, the ~~objective of the invention is to provide~~ disclosure provides fireproof glazing that is simple to produce and that has at least one transparent fireproof layer exhibiting a high level of UV stability.

~~According to the invention, this objective is achieved in that~~ Accordingly, the disclosure provides a fireproof glazing unit – ~~consisting of~~ including at least two transparent substrates ~~arranged~~ disposed at a certain distance from each other, whereby there is at least

one transparent fireproof layer between these substrates – is configured in such a way that there is a transparent TiO_2 layer that reduces the incidence of UV radiation onto the fireproof layer on at least one side of ~~said~~ the fireproof layer.

In order to absorb the UV radiation of the incident sunlight and to reduce it for the fireproof layer that lies behind the TiO_2 layer, the ~~latter~~ TiO_2 layer is advantageously located on the side of the fireproof layer that faces ~~outwards~~ outwardly.

The paragraph beginning on page 3, line 11 has been changed as follows:

In an advantageous embodiment ~~of the invention~~, the UV-absorbing TiO_2 layer is located on the surface of a glass pane of the glazing unit facing ~~outwards~~ outwardly. In another particularly preferred embodiment, the UV-absorbing TiO_2 layer is located between the inner surface of the outwardly-facing glass pane ~~facing outwards~~ and the fireproof layer. In addition to glass panes ~~arranged~~ spaced at a certain distance from each other and the fireproof layer, the fireproof glazing unit can ~~also comprise~~ include other functional layers. Examples of these are fluorine-doped SnO_2 layers for IR reflection. In the case of several functional layers between the outer glass pane and the fireproof layer, the TiO_2 layer can also be ~~arranged~~ disposed between the various layers. The arrangement of the layer is preferably selected in such a manner that the function of the surrounding layers is not impaired by the reduction of the incident UV radiation.

On the first line of page 4, please insert a heading as follows:

BRIEF DESCRIPTION OF THE DRAWINGS

The paragraphs beginning on page 4, line 1 have been changed as follows:

Additional advantages, special features and practical refinements of the ~~invention~~ disclosed fireproof glazing unit can be gleaned from the ~~subordinate claims and from the presentation below~~ following description of preferred embodiments making reference to the figures.

The drawing figures show the following:

On page 4, line 12 please insert a heading as follows:

DETAILED DESCRIPTION

The paragraph beginning on page 4, line 13 have been changed as follows:

The depiction in Figure 1 shows an especially preferred embodiment of the structure ~~according to the invention~~ of a fireproof glazing unit having a TiO_2 layer. The fireproof glazing unit ~~consists of~~ includes at least two transparent glass substrates (10; 20) that are positioned at a certain distance from each other, and of at least one likewise transparent fireproof layer (30) that is located between the glass substrates. The glass panes employed can be conventional panes used in the manufacture of transparent fireproof glazing.

The fireproof layer (30) can be formed in different ways. For instance, known hydrogels can be used whose main component is water with admixtures of salts and stabilizing polymers. Here, the stabilizing polymers serve as gel-forming agents. One can also use fireproof mixtures that contain water bonded to water glass, at least one cellulose derivative and, advantageously, preservatives. The preservative can be, for example, selected from among the group consisting of copper sulfate, copper acetate, benzoic acid ~~or~~ and mixtures thereof.

The paragraph beginning on page 5, line 1 has been changed as follows:

Such fireproof layers typically display absorption levels ranging from 4% to 15% of the UV-A radiation found in sunlight. Starting at an absorption level of about 4%, however, UV stability is no longer ensured. The structure ~~according to the invention~~ of the fireproof glazing with a transparent TiO_2 layer (30) brings about a reduction of the incident UV radiation in the order of magnitude of 80%, so that the UV radiation absorbed by the fireproof layer arranged behind the TiO_2 layer does not exceed a value of about 4% of the total incident UV radiation.

The paragraphs beginning on page 5, line 17 have been changed as follows:

In a particularly preferred embodiment ~~of the invention~~, the thickness of the TiO_2 layer lies in the order of magnitude from 10 nm to 75 nm. It has been found that the relevant UV protection starts at a layer thickness of 10 nm, whereby the maximum layer thicknesses should not exceed 75 nm since otherwise, the transparency of the glass unit would be insufficient. Therefore, when it comes to optimizing the structure, it has been found to be advantageous to utilize especially layer thicknesses from 20 nm to 30 nm.

The TiO_2 layers can be applied by means of various methods. For example, TiO_2 can be applied by the magnetron sputtering method, which is preferably carried out reactively ~~here~~ with a ceramic target. Moreover, sol-gel methods and CVD methods are good options in this context.

Figure 2 shows another especially preferred embodiment ~~of the invention~~ in which the transparent TiO_2 layer is located on the outer surface of the outwardly-facing glass pane ~~facing outwards~~.